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digitize (1) (mathematics of computing) To express analog data in digital form. (C) 1084-1986w
(2) (computer graphics) To convert graphical data, such as a drawing, into digital data that can be processed by a computer graphics system. (C) 610.6-1991w
(3) To convert an analog signal to a digital signal. (C) 610.7-1995

digitized image See: digital image.

digitizer A graphic input device that converts analog data, such as those derived from a drawing, into digital form. Examples include optical scanners and graphic tablets. *Synonym:* quantizer. *See also:* data tablet.

(C) 610.10-1994w, 610.6-1991w

digit place (A) In a positional notation system, a position corresponding to a given power of the radix. **(B)** A location in which a digit may occur in a numeral. *Synonyms:* position; digit position; symbol rank; place. (C) 1084-1986

digit position See: digit place.

digit punch A punch in one of the punch rows designated as 1 through 9 of a twelve-row punch card. *Contrast:* zone punch. (C) 610.10-1994w

digit transformation function A hash function that returns a permutation of the original key with one or more digits removed. For example, in the function below, every other digit is dropped from the original key.

Original key	Hash value
964721	942
78394	734

(C) 610.5-1990w

digraph See: directed graph.

dim Abbreviation for DIMENSION, indicating the maximum functional capability designed into an end device. *See also:* function-limiting control table. (AMR/SCC31) 1377-1997

dimension (1) (metric practice) A geometric element in a design, such as length or angle, or the magnitude of such a quantity. (QUL/SCC14) 268-1982s, SI 10-1997
(2) The number of degrees of freedom of a physical quantity. For example, an electric field, which is a spatial vector quantity, has dimension 3. (IM/ST) 1451.1-1999

dimension, critical mating See: critical mating dimension.

diminished-radix complement (mathematics of computing)

The complement obtained by subtracting each digit of a given numeral from the largest digit in the numeration system. For example, ones complement in binary notation, nines complement in decimal notation. *Synonyms:* complement on $n - 1$; radix-minus-one complement; base-minus-one complement. *Contrast:* radix complement. (C) 1084-1986w

diminishing increment sort An insertion sort in which the items in the set to be sorted are divided into subsets, each containing N items; the corresponding items in the subsets are ordered using an insertion sort; and this process is repeated using subsets of diminishing size until the subsets are of size 1. *Synonyms:* Shell's method; Shell sort. (C) 610.5-1990w

dimmed A visual effect on an object, such as a reduction in brightness or color, indicating that it cannot be selected or accept input. (C) 1295-1993w

dimming reactor (thyristor) A reactor that may be inserted in a lamp circuit at will for reducing the luminous intensity of the lamp. *Note:* Dimming reactors are normally used to dim headlamps, but may be applied to other circuits, such as gauge lamp circuits. (EEC/PE) [119]

diode (1) (electron tube) A two-electrode electron tube containing an anode and a cathode. *See also:* equivalent diode. (ED) 161-1971w

(2) (semiconductor) A semiconductor device having two terminals and exhibiting a nonlinear voltage-current characteristic; in more-restricted usage, a semiconductor device that has the asymmetrical voltage-current characteristic exemplified by a single p-n junction. *See also:* semiconductor. (ED) 216-1960w

dipole antenna

(3) A semiconducting device used to permit current flow in one direction and to inhibit current flow in the other direction. *Synonym:* rectifier. (C) 610.10-1994w

diode array An integrated circuit that contains two or more diodes. (C) 610.10-1994w

diode characteristic (multielectrode tube) The composite electrode characteristic taken with all electrodes except the cathode connected together. (ED) 161-1971w

diode-current-balancing reactor A reactor with a set of mutually coupled windings that, operating in conjunction with other similar reactors, forces substantially equal division of current among the parallel paths of a rectifier circuit element. *See also:* reactor. (PE/TR) [57]

diode equivalent The imaginary diode consisting of the cathode of a triode or multigrid tube and a virtual anode to which is applied a composite controlling voltage such that the cathode current is the same as in the triode or multigrid tube. (ED) 161-1971w

diode function generator (analog computer) A function generator that uses the transfer characteristics of resistive networks containing biased diodes. The desired function is approximated by linear segments whose values are manually inserted by means of potentiometers and switches. (C) 165-1977w

diode fuses (semiconductor rectifiers) Fuses of special characteristics connected in series with one or more semiconductor rectifier diodes to disconnect the semiconductor rectifier diode in case of failure and protect the other components of the rectifier. *Note:* Diode fuses may also be employed to provide coordinated protection in case of overload or short-circuit. *See also:* semiconductor rectifier stack. (IA) [62]

diode laser See: injection laser diode.

diode-transistor logic (DTL) A family of bipolar integrated circuit logic formed by diodes, transistors, and resistors; characterized by medium speed, low power dissipation, high drive capability and low cost. (C) 610.10-1994w

dip (1) (electroplating) A solution used for the purpose of producing a chemical reaction upon the surface of a metal. *See also:* electroplating. (EEC/PE) [119]
(2) *See also:* sag. (SCC22) 1346-1998

DIP See: dual in-line package.

diplex filter A filter having a low pass and high pass filter that divide the frequency spectrum into two separate frequency bands that do not overlap. The conventional designation assigns the low band of frequencies to the inbound path, and the high band of frequencies to the outbound path. The diplex filter allows the placement of duplex signals onto a cable by the use of frequency division multiplexing. (LM/C) 802.7-1989r

diplex operation (data transmission) The simultaneous transmission or reception of two signals using a specified common feature, such as a single antenna or a single carrier. (PE) 599-1985w

diplex radio transmission The simultaneous transmission of two signals using a common carrier wave. *See also:* radio transmission. (AP/ANT) 145-1983s

dip needle A device for indicating the angle between the magnetic field and the horizontal. *See also:* magnetometer. (EEC/PE) [119]

dipole See: folded dipole; Hertzian electric dipole; dipole antenna; electrically short dipole; half-wave dipole; Hertzian magnetic dipole; magnetic dipole; microstrip dipole.

dipole antenna (overhead-power-line corona and radio noise) Any one of a class of antennas having a radiation pattern approximating that of an elementary electric dipole. *Note:* Common usage considers the dipole antenna to be a metal radiating or receiving structure that supports a line current distribution similar to that of a thin straight wire, a half-wavelength long, so that the current has a node at each end of the antenna. *Synonym:* doublet.

(T&D/PE/AP/ANT) 539-1990, 145-1993, 599-1985w